

REMARKS/ARGUMENTS

Applicants submit this response to the Official Action mailed December 23, 2003.

Applicants respectfully request reconsideration and allowance of claims 5, 10-11, 13, 20-24, 36, 37, 54 and 55. No new matter has been added by these claim amendments. Applicants have cancelled claims 1-4, 6-9, 12, 14-19, 25-35, 38-53 and 56-65. A petition for a three-month extension of the term for response to said Official Action, to and including June 23, 2004, is transmitted herewith.

Claims 1-4, 6-9, 12, 14-19, 25-35, 38-53 and 56-65 were rejected under 35 U.S.C. § 102(e) as being anticipated by Kreitemier et al. (U.S. Pat. 6,216,911). By the present amendment, applicants have cancelled without prejudice claims 1-4, 6-9, 12, 14-19, 25-35, 38-53 and 56-65, in order to advance the prosecution, but reserve the right to prosecute these claims in a subsequent application, as applicants do not agree with this rejection.

Claims 5, 10-11, 13, 20-24, 36, 37, 54 and 55 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kreitemier in view of Meeks (U.S. Pat. 3,749,880). Applicants have amended claims 5, 20, 36 and 54 to respond to this rejection.

Specifically, claim 5 has been amended to describe the heating device as transferring heat to said first reservoir through a flat, single plane that is shared by the heating device and the first reservoir. An example of this is shown in Fig. 2 of the present drawings. The bottom of heater 54 is flat

and is in contact with the top of the first reservoir 52, which is in the form of a flat, coiled tube that wraps about itself. The heater 54 and the first reservoir 52 share a flat, common plane through which heat can be transferred efficiently.

Meeks, however, does not teach or suggest such a feature. Meeks describes a heat exchanger that is cylindrical in shape and is double walled in that there is an outer shell 70 and an inner shell 72 slightly smaller than the outer shell so that it may fit within the outer shell. The side wall of the outer shell 70 has a spiral or continuous groove or channel 78 through which shave cream from the pressurized container will flow. (Fig. 4; col. 3, lns. 54-67.) The force of the shave cream being ejected from the pressurized container causes the shave cream to be forced spirally around the heat exchanger within the channel 78 between the inner shell 72 and the outer shell 70. As the shave cream is traveling in this manner from the inlet to the outlet the heated heat exchanger transfers heat to the shave cream. (Col 6, lns. 9-15). The shave cream in Meeks must be heated throughout the entire spiral or groove around the height of the inner shell 72, whereby the entire inner shell must be heated. In contrast, amended claim 5 discloses the transfer of heat through a single flat plane in the form of a coil that need only be the diameter of the flow of lotion. This requires much less heat and is much more efficient. Therefore, applicant contends that the rejection should be withdrawn as to claim 5.

The rejection should also be withdrawn as to claims 10-11 and 13, inasmuch as each of these claims depends, directly or indirectly, from claim 5.

Claim 20 has been amended to describe the heating device as

transferring heat to said first reservoir through a flat, single plane that is shared by the heating device and the first reservoir. As previously noted, the bottom of heater 54 is flat and is in contact with the top of the first reservoir 52, which is in the form of a flat, coiled tube that wraps about itself. The heater 54 and the first reservoir 52 share a flat, common plane through which heat can be transferred efficiently. Meeks, however, describes a heat exchanger that is cylindrical in shape and is double walled in that there is an outer shell 70 and an inner shell 72 slightly smaller than the outer shell so that it may fit within the outer shell. The side wall of the outer shell 70 has a spiral or continuous groove or channel 78 through which shave cream from the pressurized container will flow. (Fig. 4; col. 3, lns. 54-67.) The force of the shave cream being ejected from the pressurized container causes the shave cream to be forced spirally around the heat exchanger within the channel 78 between the inner shell 72 and the outer shell 70. As the shave cream is traveling in this manner from the inlet to the outlet the heated heat exchanger transfers heat to the shave cream. (Col 6, lns. 9-15). The shave cream in Meeks must be heated throughout the entire spiral or groove around the height of the inner shell 72, whereby the entire inner shell must be heated. As such, applicant contends that the rejection should be withdrawn as to claim 20.

The rejection should also be withdrawn as to claims 21-24, inasmuch as each of these claims depends, directly or indirectly, from claim 20.


Claims 36 and 54 have been amended to describe a first reservoir in the form of a heat sink having an axial channel. Meeks does not teach or suggest such a feature. As previously

noted, Meeks describes a heat exchanger that is cylindrical in shape and is double walled in that there is an outer shell 70 and an inner shell 72 slightly smaller than the outer shell so that it may fit within the outer shell. The side wall of the outer shell 70 has a spiral or continuous groove or channel 78 through which shave cream from the pressurized container will flow. (Fig. 4; col. 3, lns. 54-67.) As described in claims 36 and 54 of the present application, the fluid flows through the first reservoir along a single axis, rather than along a spiral path around a heating element. As such, applicants contend that the rejection should be withdrawn as to claims 36 and 54.

The rejection should also be withdrawn as to claim 37, inasmuch as this claim directly depends from claim 36, as well as claim 55, inasmuch as this claim directly depends from claim 54.

In view of the foregoing, applicants respectfully submit that all claims present in this application are patentable over the cited combination of prior art. Accordingly, applicants respectfully request favorable reconsideration and withdrawal of the rejections of the claims. Also, applicants respectfully request that this application be passed to allowance.

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Steven A. Garner, Esq.
Registration No. 52,475
Attorney for Applicants
Conair Corp.
One Cummings Point Rd
Stamford, CT 06904
Tel: (203) 921-2844

Marked-up Version of Claims:

Claims 1-4 (cancelled)

Claim 5 (once amended): [The] A fluid delivery system [of claim 2, wherein said first reservoir is a coiled tube] comprising:

a first reservoir in the form of a flat, coiled tube having a first volume;

a second reservoir having a second volume and connected to said first reservoir;

a pump device operatively connected to said first reservoir and said second reservoir;

a heating device in thermal communication with said first reservoir and in substantial thermal isolation from said second reservoir; and

a delivery device connected to said first reservoir, wherein said heating device heats a fluid in said first reservoir by the transfer of heat through a flat, single plane shared by said heating device and said first reservoir, and said pump device selectively causes said fluid to flow from said second reservoir to said first reservoir, and then from said first reservoir to said delivery device and from said delivery device to the atmosphere, and wherein said heating device and said pump device operate independently from each other.

Claims 6-9 (cancelled)

Claim 10 (as originally filed): The fluid delivery system of claim 5, wherein said coiled tube is flat.

Claim 11 (as originally filed): The fluid delivery system of claim 5, wherein said coiled tube is made of aluminum.

Claim 12 (cancelled)

Claim 13 (as originally filed): The fluid delivery system of claim 10, wherein said coiled tube is wound about five times.

Claim 14-19 (cancelled)

Claim 20 (once amended): [The] A fluid delivery system [of claim 18, wherein said first reservoir is a coiled tube] comprising:

a first reservoir in the form of a flat, coiled tube having a first volume;

a second reservoir having a second volume and connected to said first reservoir;

a pump device operatively connected to said first reservoir and said second reservoir;

a heating device in thermal communication with said first reservoir and in substantial thermal isolation from said second reservoir; and

a delivery device connected to said first reservoir, wherein said heating device heats a fluid in said first reservoir by the transfer of heat through a flat, single plane shared by said heating device and said first reservoir, and said pump device selectively causes said fluid to flow from said second reservoir to said first reservoir, from said first reservoir to said delivery device and from said delivery device to the atmosphere, wherein said heating device and said pump device operate independently from each other, and wherein said

second reservoir is removable from said fluid delivery system.

Claim 21 (as originally filed): The fluid delivery system of claim 20, wherein said coiled tube is flat.

Claim 22 (as originally filed): The fluid delivery system of claim 20, wherein said coiled tube is wound about five times.

Claim 23 (as originally filed): The fluid delivery system of claim 20, wherein said coiled tube is made of aluminum.

Claim 24 (as originally filed): The fluid delivery system of claim 23, wherein said delivery device comprises a downwardly directed spout.

Claims 25-35 (cancelled)

Claim 36 (once amended): [The] A fluid delivery system [of claim 33, wherein] comprising:

a first reservoir having a first volume;

a second reservoir having a second volume and
connected to said first reservoir;

a pump device operatively connected to said first
reservoir and said second reservoir;

a heating device in thermal communication with said
first reservoir and in substantial thermal isolation from said
second reservoir; and

wherein said heating device heats a fluid in said first
reservoir and said pump device selectively causes said fluid to
flow from said second reservoir to said first reservoir and from
said first reservoir to the atmosphere, wherein said heating

device and said pump device operate independently from each other, and wherein said first reservoir comprises a heat sink having an axial channel and said heating device comprises a heating wire in contact with said heat sink.

Claim 37 (as originally filed): The fluid delivery system of claim 36, wherein said heat sink has channels formed therein for housing at least a portion of said heating wire.

Claims 38-53 (cancelled)

Claim 54 (once amended): [The] A fluid delivery system [of claim 52, wherein] comprising:

a first reservoir having a first volume;
a second reservoir having a second volume and
connected to said first reservoir;
a pump operatively connected to said first reservoir
and said second reservoir;
a heating device in thermal communication with said
first reservoir and in substantial thermal isolation from said
second reservoir; and
a housing surrounding said first reservoir and said
heating device, and forming a substantially water tight seal
around said first reservoir and said heating device,
wherein said heating device heats a fluid in said
first reservoir and said pump selectively causes said fluid to
flow from said second reservoir to said first reservoir and from
said first reservoir, and wherein said heating device and said
pump device operate independently from each other, and wherein
said first reservoir comprises a heat sink having an axial
channel and said heating device comprises a heating wire in

contact with said heat sink.

Claim 55 (as originally filed): The fluid delivery system of claim 54, wherein said heat sink has channels formed therein for housing at least a portion of said heating wire.

Claims 56-65 (cancelled)

Claim 66 (withdrawn): A method of heating fluid in a fluid delivery system having a first reservoir, a second reservoir, and a heating device, said first reservoir being in thermal communication with said heating device and said second reservoir being in substantial thermal isolation from said heating device, comprising the steps of:

commencing a heat up cycle by:

providing full power to the heating device;

determining the fluid temperature in the first reservoir; and

determining if said fluid temperature is at or above a first temperature;

commencing an overshoot protection cycle when said fluid temperature is at or above said first temperature by:

providing reduced power to said heating device;

determining said fluid temperature in said first reservoir; and

determining if said fluid temperature is at or above a second temperature; and

commencing a maintenance cycle when said fluid temperature is at or above said second temperature by:

shutting off power to said heating device;

determining said fluid temperature in said first

reservoir;
determining if said fluid temperature is at or below a third temperature;
providing reduced power to said heating device when said fluid temperature is at or below said third temperature;
determining said fluid temperature in said first reservoir;
determining if said fluid temperature is at or above said second temperature; and
repeating said maintenance cycle steps when said fluid temperature is at or above said second temperature.

Claim 67 (withdrawn): The method of claim 66, further comprising the steps of:

measuring the time said heating device has been activated after said maintenance cycle has commenced;
determining if said time is at or above a time limit; and
automatically shutting off said power when said time is at or above said time limit.

Claim 68 (withdrawn): The method of claim 66, wherein said first temperature is pre-determined.

Claim 69 (withdrawn): The method of claim 66, wherein said first temperature is about 5° C to about 15° C less than said second temperature.

Claim 70 (withdrawn): The method of claim 66, wherein said third temperature is pre-determined.

Claim 71 (withdrawn): The method of claim 66, wherein said third temperature is about 0.5° C to about 10.0° C less than said second temperature.

Claim 72 (withdrawn): The method of claim 66, wherein said reduced power is about half of said full power.

Claim 73 (withdrawn): The method of claim 67, wherein said time limit is pre-determined.

Claim 74 (withdrawn): The method of claim 67, wherein said time limit is about one hour.